

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

40. (Currently Amended) A laser structure comprising:
- an elongated, dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium;
 - a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes being divided into spaced apart first and second electrode portions, each of said spaced apart first and second electrode portions of said first electrode at least two pairs of electrodes spaced apart along said waveguide structure, with first and second ones of said electrodes in each said pair being on respectively first and second opposite sides of said waveguide structure, said first electrode in each electrode pair being electrically connectable to an RF power supply for applying an RF potential across said gain medium;
 - a metal housing enclosing said waveguide structure and said pair of electrodes ~~plurality of electrode pairs~~, with said first electrode ~~ones of said electrodes in each pair~~ being electrically isolated from said metal housing; and
 - ~~wherein,~~ a metal shield ~~[[is]]~~ located between said spaced apart first and second portions of said first and second electrodes, the metal shield being positioned orthogonal to said first and second elongated surfaces so as adjacent pairs of electrodes transverse to said waveguide structure to prevent RF coupling between said spaced apart first and second portions of said first and second electrodes adjacent electrode pairs, said metal shield being electrically isolated from said first electrodes and electrically connected to said metal housing.

41. (Currently Amended) The laser structure of claim 40 wherein said spaced apart first and second portions of said second electrode electrodes in each pair are electrically connected to said metal housing.

42. (Currently Amended) A laser structure comprising:

a laser resonator having a resonator axis;

an elongated dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium, and said resonator axis extending through said plurality of waveguide channels;

a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes being divided into spaced apart first and second electrode portions, each of said spaced apart first and second electrode portions of said first electrode at least two pairs of electrodes spaced apart along said waveguide structure, with first and second ones of said electrodes in each said pair being on respectively first and second opposite sides of said waveguide structure, said first electrode in each electrode pair being electrically connectable to an RF power supply for applying RF energy to said gain medium, thereby causing laser radiation to circulate in said laser resonator said laser radiation beam being as guided by said waveguide channels;

a metal housing enclosing said waveguide structure and said pair of electrodes plurality of electrode pairs, with said first electrode one of said electrodes in each electrode pair being electrically isolated from said metal housing; and

~~wherein,~~ a metal shield [[is]] located between adjacent pairs of electrodes spaced apart first and second portions of said first and second electrodes transverse to said waveguide structure to prevent RF coupling between said spaced apart first and second portions of said first and second electrodes adjacent electrode pairs, said metal shield being electrically isolated from said first electrodes electrode and electrically connected to said metal housing.

43. (Currently Amended) The laser structure of claim 42, wherein said metal housing is grounded.

44. (Currently Amended) The laser structure of claim 42 wherein said spaced apart first and second portions of said second electrode ~~electrodes in each pair~~ are each electrically connected to said metal housing.

45. (Currently Amended) The laser structure of claim 42, wherein said metal shield is in the form of an elongated metal plate having a plurality of spaced-apart metal fingers extending therefrom, with spaces between said metal fingers arranged to allow passage therethrough of laser radiation guided by said waveguide channels.

46. (Currently Amended) The laser structure of claim 45, wherein said metal fingers extend through holes in said waveguide structure.

47. (Currently Amended) The laser structure of claim 46, wherein said shield is located at a predetermined distance from said spaced apart first and second portions of said first and second electrodes, said predetermined distance being selected to prevent electrical arcing between said spaced apart first and second portions of said first and second electrodes.

48. (Currently Amended) A laser comprising:
a laser resonator having a resonator axis;
an elongated dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium, and said resonator axis extending through said plurality of waveguide channels;
an RF power supply;
a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes being divided into spaced apart first and second electrode portions, each of said spaced

~~apart first and second electrode portions of said first electrode at least two pairs of electrodes spaced apart along said waveguide structure, with first and second ones of said electrodes in each said pair being on respectively first and second opposite sides of said waveguide structure, said first electrode in each electrode pair being electrically connected to said RF power supply for applying RF energy to said gain medium, thereby causing laser radiation to circulate in said laser resonator guided by said waveguide channels;~~

a metal housing enclosing said waveguide structure and said first and second electrodes ~~plurality of electrode pairs~~, with said first electrode ~~one of said electrodes in each electrode pair~~ being electrically isolated from said metal housing; and

~~wherein,~~ a metal shield ~~[[is]]~~ located between adjacent ~~pairs of electrodes~~ spaced apart first and second portions of said first and second electrodes transverse to said waveguide structure to prevent RF coupling between said ~~adjacent pairs of electrodes~~ spaced apart first and second portions of said first and second electrodes, said metal shield being electrically isolated from said first electrode ~~electrodes~~ and electrically connected to said metal housing.

49. (Previously Presented) The laser of claim 48, wherein said metal shield is in the form of an elongated metal plate having a plurality of spaced-apart metal fingers extending therefrom, with spaces between said metal fingers arranged to allow passage of laser radiation guided by said waveguide channels.

50. (Currently Amended) A laser comprising:

a laser resonator having a resonator axis;

an elongated dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium, and said resonator axis extending through said plurality of waveguide channels;

a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes

~~being divided into spaced apart first and second electrode portions first and second electrode pairs arranged spaced apart along said waveguide structure, with first and second ones of said electrodes in each said pair being on respectively first and second opposite sides of said waveguide structure;~~

a metal housing enclosing said waveguide structure and said pair of electrodes ~~electrode pairs~~, with said first and second electrode portions of said first electrode ~~in each electrode pair~~ being electrically isolated from said metal housing, and said first and second electrode portions of said second electrode ~~in each electrode pair~~ being electrically connected to said metal housing;

~~first and second RF power supplies;~~

first and second RF power supplies, said first portion of electrode in said first electrode ~~pair~~ being electrically connected to said first RF power supply, and said second portion of said first electrode ~~in said second electrode pair~~ being electrically connected to said second RF power supply for applying RF energy to said gain medium, thereby causing laser radiation to circulate in said laser resonator guided by said waveguide channels; and

~~wherein,~~ a metal shield ~~[[is]]~~ located between ~~adjacent pairs of electrodes spaced apart first and second portions of said first and second electrodes~~ transverse to said waveguide structure to prevent RF coupling between said ~~adjacent pairs of electrodes spaced apart first and second portions of said first and second electrodes~~, said metal shield being electrically isolated from said first electrode ~~electrodes~~ and electrically connected to said metal housing.

51. (Previously Presented) The laser of claim 50, wherein said metal shield is in the form of an elongated metal plate having a plurality of spaced-apart metal fingers extending therefrom, with spaces between said metal fingers arranged to allow passage of laser radiation guided by said waveguide channels.

52. (New) The laser of claim 50, wherein said first and second RF power supplies share a common oscillator and at least one preamplifier, whereby each of the first and second electrodes can be driven in phase.